

**Amendments to the Specification**

On Page 1, before the section "Field of the Invention", please insert the following new heading and paragraph:

RELATED APPLICATIONS

This patent application is a divisional application of U.S. Serial No. 10/196,480, filed on July 15, 2002, which is a divisional application of U.S. Serial No. 09/593,188, filed June 14, 2000 and now issued U.S. Patent No. 6,452,546.

Delete the text starting below the heading "Summary of the Invention" starting on page 5 at line 3 through page 6, line 19, and in its place insert the new text below:

In one embodiment disclosed herein, a communication method comprises dividing each of a plurality of optical carrier signals into a plurality of intermediate signals wherein each optical carrier signal carrying all of a plurality of wavelength division multiplexed initial data signals and each intermediate signal carrying all of the multiplexed initial data signals over a predetermined wavelength range, separating each intermediate signal into the respective data signals contained therein, and combining corresponding data signals separated from the intermediate signals into their

respective initial data signals.

In another embodiment disclosed herein, a communication method comprises passing each of a plurality of optical carrier signals through a respective first wavelength division multiplexer to divide the optical carrier signal into a plurality of intermediate signals, each optical carrier signal carrying all of a plurality of wavelength division multiplexed initial data signals and each intermediate signal carrying all of the multiplexed initial data signals over a predetermined wavelength range, passing each intermediate signal through a respective second wavelength division multiplexer to separate the intermediate signal into the respective data signals contained therein, passing all intermediate signals carrying the same data signal through a respective third wavelength division multiplexer to combine to form a respective single intermediate signal, and then passing all single intermediate signals carrying the same data signal through a respective fourth wavelength division multiplexer to combine to form the respective initial data signal.

In still another embodiment disclosed herein, a communication method comprises receiving a plurality of RF initial data signals substantially simultaneously in each of a plurality of antenna elements, forming a plurality of optical carrier signals by wavelength division multiplexing all received initial data signals with each of a plurality of optical wavefronts, dividing each of the optical

carrier signals into a plurality of intermediate signals, each intermediate signal carrying all of the multiplexed initial data signals over a predetermined wavelength range, separating each intermediate signal into the respective data signals contained therein, and combining corresponding data signals separated from the intermediate signals into their respective initial data signals.

One or more of the wavelength division multiplexers may comprise an array waveguide grating.